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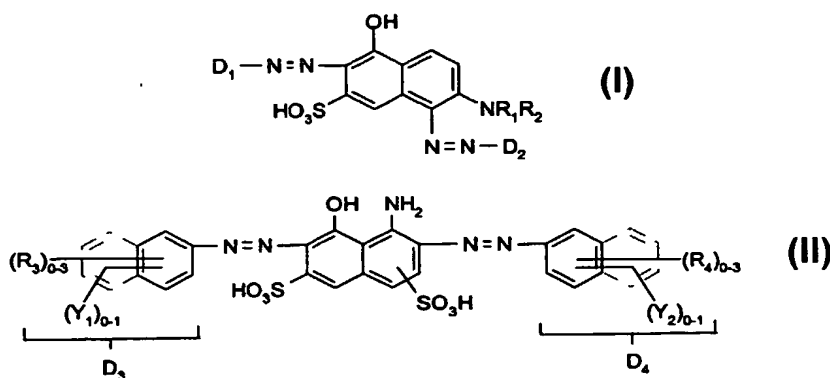
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(54) Title: MIXTURES OF REACTIVE DYES AND THEIR USE



(57) Abstract: Dye mixtures comprising at least one dye of formula together with at least one dye of formula wherein the radicals indicated in the formulae are defined in accordance with the claims, are suitable for dyeing or printing cellulosic fibre materials with good build-up behaviour and yield dyeings of a deep shade having good fastness properties.

# INTERNATIONAL SEARCH REPORT

International Application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C09B62/513 C09B62/09 C09B67/22

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BEILSTEIN Data, CHEM ABS Data, EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 03/080739 A (DYSTAR TEXTILFARBEN GMBH & CO ; RUSS WERNER (DE); MEIER STEFAN (DE); M) 2 October 2003 (2003-10-02) examples 676-681, 568, 1053-1057	1-6
A	WO 00/06652 A (CIBA SC HOLDING AG ; TZIKAS ATHANASSIOS (CH); KLIER HERBERT (DE)) 10 February 2000 (2000-02-10) cited in the application the whole document	1-7
A	EP 0 582 893 A (BAYER AG) 16 February 1994 (1994-02-16) the whole document	1-7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 622 390 A (FASS RUDOLF ET AL) 11 November 1986 (1986-11-11) cited in the application examples 267,271 ----	8-11
Y	T.OMURA: "Formaldehyde-induced discoloration: Design of Formaldehyde-fast Bisazo Dyes" DYES AND PIGMENTS, vol. 22, 1993, pages 99-116, XP002294809 page 111 -page 112; table 5 ----	8-11
Y	WO 01/68775 A (CLARIANT FINANCE BVI LTD; CLARIANT INT LTD) 20 September 2001 (2001-09-20) page 4 -page 5; examples 3,11 -----	8-11

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/050353

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03080739	A	02-10-2003	DE 10212769 A1	02-10-2003
			DE 10212770 A1	02-10-2003
			DE 10217476 A1	06-11-2003
			DE 10217478 A1	06-11-2003
			WO 03080739 A1	02-10-2003
WO 0006652	A	10-02-2000	AT 247694 T	15-09-2003
			AU 4911099 A	21-02-2000
			DE 59906709 D1	25-09-2003
			WO 0006652 A2	10-02-2000
			EP 1137716 A2	04-10-2001
			ES 2205850 T3	01-05-2004
			JP 2002521548 T	16-07-2002
			PT 1137716 T	30-01-2004
			US 6537332 B1	25-03-2003
EP 0582893	A	16-02-1994	DE 4229836 A1	17-02-1994
			DE 59308495 D1	10-06-1998
			EP 0582893 A1	16-02-1994
			JP 6157935 A	07-06-1994
			US 5393307 A	28-02-1995
US 4622390	A	11-11-1986	DE 3033611 A1	29-04-1982
			AR 241431 A1	29-08-1992
			BR 8105698 A	25-05-1982
			CS 221986 B2	29-04-1983
			DE 3165069 D1	30-08-1984
			EP 0048355 A1	31-03-1982
			IN 155374 A1	19-01-1985
			JP 1715676 C	27-11-1992
			JP 4001031 B	09-01-1992
			JP 57078458 A	17-05-1982
			KR 8801391 B1	30-07-1988
WO 0168775	A	20-09-2001	AT 258573 T	15-02-2004
			BR 0109146 A	22-04-2003
			CN 1418243 T	14-05-2003
			DE 60101903 D1	04-03-2004
			EP 1265964 A2	18-12-2002
			ES 2211781 T3	16-07-2004
			WO 0168775 A2	20-09-2001
			JP 2003526726 T	09-09-2003
			PT 1265964 T	30-04-2004
			US 2003023051 A1	30-01-2003
			US 2001044527 A1	22-11-2001
			ZA 200205799 A	20-10-2003